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# मानक

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IS : 4638 - 1981

*Indian Standard*  
SPECIFICATION FOR  
SEAMLESS RECTANGULAR FISH CANS  
( *First Revision* )

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**INDIAN STANDARDS INSTITUTION**  
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# Indian Standard

## SPECIFICATION FOR SEAMLESS RECTANGULAR FISH CANS

### ( First Revision )

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# *Indian Standard*

## SPECIFICATION FOR SEAMLESS RECTANGULAR FISH CANS ( *First Revision* )

### 0. FOREWORD

**0.1** This Indian Standard ( First Revision ) was adopted by the Indian Standards Institution on 30 October 1981, after the draft finalized by the Metal Containers Sectional Committee had been approved by the Marine, Cargo Movement and Packaging Division Council.

**0.2** This standard first published in 1967 has been revised to take into account the use of aluminium which is in wide use all over the world as alternate materials for the fish cans. The tolerances on the specified dimensions have also have been specified to give the manufacturers of these cans a better dimensional control in their product and to make inspection of these cans simpler. The tolerance on gross lidded capacity of the cans has also been increased to  $\pm 5$  ml instead of  $\pm 2$  ml as given in the earlier standard.

**0.3** The role of the canned fish industry for consumption within the country as well as for export has been well recognized. At present fish is being canned in various types and sizes of containers and one the most commonly used, specially for sardines, is the seamless rectangular tin. This standard covers the rectangular tins only which in the trade are also known as 'Quarter Dingley Cans'. To achieve standardization of the dimensions for these containers for reasons of economy, this standard has been propagated.

**0.3.1** The tins covered in this standard are intended to pack approximately 100 g of fish.

**0.4** This standard contains clauses **3.4.3** and **3.6** which call for agreement between the purchaser and the supplier and which permit the purchaser to use his option for selection to suit his requirements.

**0.5** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in

accordance with IS : 2-1960\*. The number of significant places retained in rounded off value should be the same as that of the specified value in this standard.

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## 1. SCOPE

**1.1** This standard prescribes the requirements for two-piece rectangular cans manufactured from tinplate or aluminium sheet used for the packing of fish.

## 2. TERMINOLOGY

**2.1** For the purpose of this standard, the definitions given in IS : 1394-1973† shall apply.

## 3. REQUIREMENTS

**3.1 Dimensions and Tolerances** — The cans shall be manufactured to the dimensions and tolerances given in Fig. 1.

**3.2 Gross Lidded Capacity** — The gross lidded capacity of the can shall be between  $115 \pm 5$  ml when measured with water at  $27 \pm 2^\circ\text{C}$ .

### 3.3 Material

**3.3.1** The body of the cans shall be made from cold-reduced tinplate of deep drawing quality (TD). The tin coating for both body and the top shall be at least equivalent to D 8.4/5.6 of IS : 1993-1974‡ with a protective/decorative coating on the external surface.

**3.3.2** The nominal thickness of the tinplate used shall be 0.25 mm.

**3.3.3** The body and top of the cans may be made from aluminium alloy sheet conforming to Grade 31000 or to 52000 of IS : 737-1974§. The minimum thickness of the aluminium sheet be 0.27 mm.

### 3.4 Manufacture

**3.4.1** Each component shall be manufactured from a single piece of metal.

**3.4.2** The body shall be manufactured as shown in Fig. 1.

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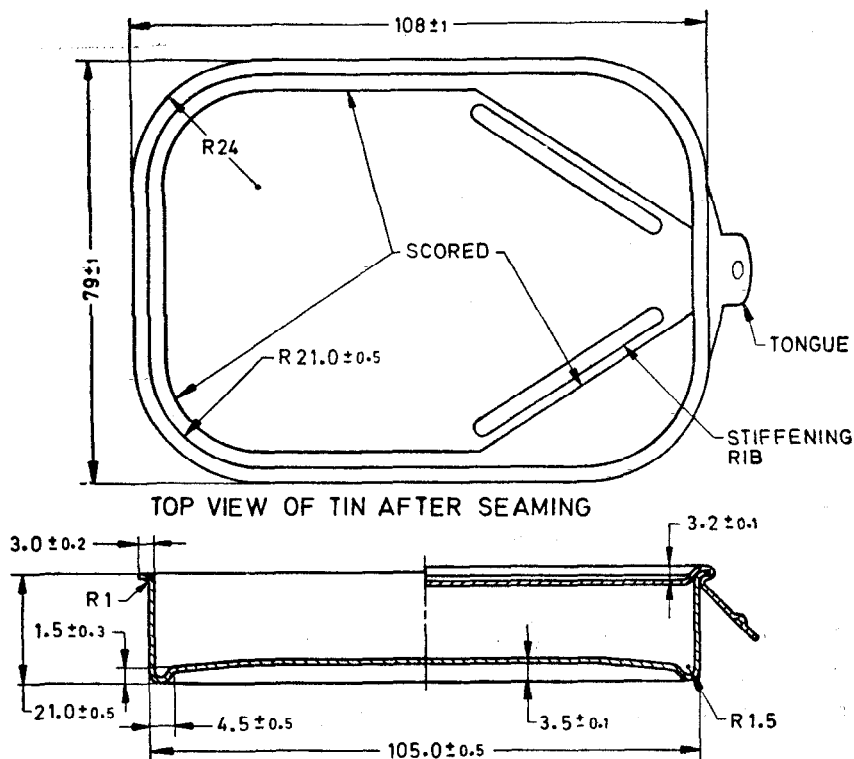
\*Rules for rounding off numerical values (*revised*).

†Glossary of terms relating to metal containers (*second revision*).

‡Specification for cold-reduced tinplate and cold-reduced blackplate (*first revision*).

§Specification for wrought aluminium and aluminium alloys, sheet and strip (for general engineering purposes) (*second revision*).





All dimensions in millimetres.

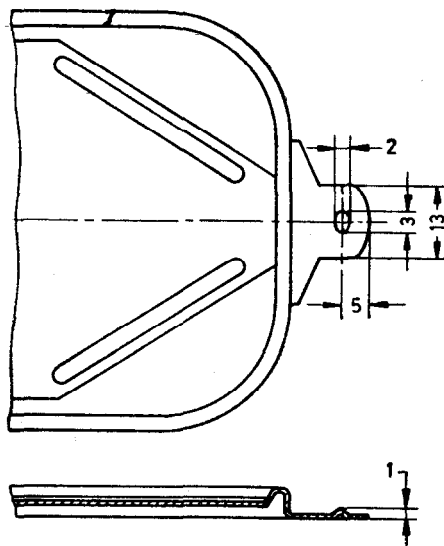
FIG. 1 SEAMLESS RECTANGULAR FISH CAN

**3.4.3** The tops shall be scored and shall be provided with a tongue for the purpose of opening the can as shown in top view of Fig. 1. Details of the tongue have been shown in Fig. 2. If required by the purchaser, the top may be provided with stiffening ribs.

**3.4.4** The end seams shall be lined with a suitable non-toxic compound and shall be double seamed.

**3.4.5** The key for opening the can may be supplied loose or fixed, in any manner to the top. A typical key of galvanized steel wire is shown in Fig. 3. The wire used shall have a diameter of not less than 3.25 mm.

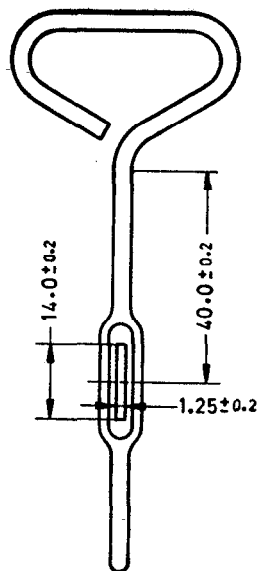
**3.4.6** The cans shall be new and in a clean condition inside and outside and shall be free from rust and foreign matter.



Tolerance on all dimensions  $\pm 0.1$  mm.

All dimensions in millimetres.

FIG. 2 DETAILS OF TONGUE



Tolerance on all dimensions  $\pm 0.1$  mm

All dimensions in millimetres.

FIG. 3 DIMENSIONS OF KEY FOR OPENING THE CAN

**3.5 Internal Finish** — The internal surface of the tinplate can may be uniformly lacquered with a suitable non-toxic lacquer.

**3.6 External Treatment** — The external surface of the cans may be given a decorative and/or protective coating, if agreed to between the purchaser and the supplier.

**3.7 Air Pressure Test** — The can with the top seamed on shall be capable of withstanding an internal air pressure of 70 kPa without any signs of leakage when tested in water.

## 4. MARKING

**4.1** The manufacturer's name, initials or recognized trade-mark and the year of manufacture may be clearly and indelibly marked or embossed on the can in such a manner that the marking shall not lead to any contamination or deterioration of the product packed in the container, or any damage to the container.

#### 4.1.1 The cans may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors may be obtained from the Indian Standards Institution.

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## Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

## Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

## Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	$1 \text{ N} = 1 \text{ kg.m/s}^2$
Energy	joule	J	$1 \text{ J} = 1 \text{ N.m}$
Power	watt	W	$1 \text{ W} = 1 \text{ J/s}$
Flux	weber	Wb	$1 \text{ Wb} = 1 \text{ V.s}$
Flux density	tesla	T	$1 \text{ T} = 1 \text{ Wb/m}^2$
Frequency	hertz	Hz	$1 \text{ Hz} = 1 \text{ c/s (s}^{-1}\text{)}$
Electric conductance	siemens	S	$1 \text{ S} = 1 \text{ A/V}$
Electromotive force	volt	V	$1 \text{ V} = 1 \text{ W/A}$
Pressure, stress	pascal	Pa	$1 \text{ Pa} = 1 \text{ N/m}^2$

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